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## Homoptera from the Bahama Islands<sup>1</sup>

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Having long had an interest in zoogeography, especially the zoogeography of the Homoptera, I was pleased to identify the collections of these insects made by the American Museum of Natural History, chiefly on South Bimini Island. There is, I believe, ample evidence that there is a distinct Caribbean region as far as the Homoptera are concerned. If this be true, the Bahamas would lie on the border between the Nearctic region and the Caribbean region and would be of great importance in helping delimit these two regions. While I am not suggesting that boundaries can be drawn with hair-like accuracy between two adjoining zoogeographic regions that are not separated by impassable barriers, we should study the fauna of such adjoining regions and make an attempt to draw such boundaries more accurately. The Bahamas are so situated that they should receive substantial contributions from Florida, most of which must lie in the Nearctic region, and from the Greater Antilles, most of which must lie in the Caribbean region. It is interesting to note that the present collections, which are confined largely to one island of the Bahamas, and a rather small island at that, bear out these conclusions. This is amply illustrated by table 1.

It is to be hoped therefore that future collectors will make an effort to study this area, which is readily available, so that we can draw

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<sup>1</sup> Contribution from the Entomology Department, North Carolina Agricultural Experiment Station, Raleigh, North Carolina. Published with the approval of the Director of Research as Paper No. 565 of the Journal Series.

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TABLE 1—*Continued*

|                                 | Nearctic Region | Southeastern United States | Florida | Bermuda | Greater Antilles | Cuba | Hispaniola | Puerto Rico | Lesser Antilles | Mexico | Central America | Northern South America | Bahamas |
|---------------------------------|-----------------|----------------------------|---------|---------|------------------|------|------------|-------------|-----------------|--------|-----------------|------------------------|---------|
| <i>Agallia albidula</i>         | —               | —                          |         |         |                  | —    | —          | —           | +               |        |                 | —                      | —       |
| <i>Monobelus fasciatus</i>      |                 |                            |         |         | +                | —    | —          | —           | —               |        |                 |                        | —       |
| <i>Brachycentrotus gracilis</i> |                 |                            |         |         |                  |      |            |             |                 |        |                 |                        | +       |
| <i>Idioderma virescens</i>      |                 |                            | +       |         |                  | —    |            |             |                 |        |                 |                        | —       |
| <i>Diceroprocta bonhotei</i>    |                 |                            |         |         |                  |      |            |             |                 |        |                 |                        | +       |

\* +, type localities ; —, subsequent records.

the line between the two regions with greater accuracy. The Homoptera especially are excellent indicators of zoogeographic distribution, because for the most part their powers of locomotion are rather restricted and, except where they may have been carried in the upper air currents or by commerce, their distribution is chiefly continuous, rather restricted, and confined to single zoogeographic regions.

The holotypes, allotypes, and most of the paratypes are in the collection of the American Museum of Natural History; some of the paratypes are in the collection of the author.

#### CIXIIDAE

#### CIXIINAE

#### PINTALINI

#### GENUS *PINTALIA*

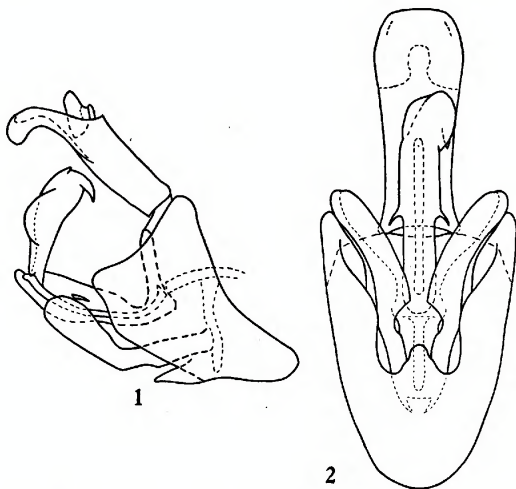
#### *Pintalia delicata* (Fowler)

#### Figures 1, 2

*Metabrixia delicata* FOWLER, 1904, *Biologia Centrali-Americana*, vol. 1, p. 86.

This species was originally described from Mexico and has since been recorded from many of the states of Mexico south to Guatemala. It is widely distributed in the southeastern United States, having been

recorded from Virginia and Missouri southward to Florida and Texas. It has also been found in Cuba. Whether this species is distinct from *dorsivittata* Van Duzee or not is still undecided. Caldwell (1944, p. 154) considers the two species distinct on the basis of minor variations in the spines of the aedeagus and variations in color. In the specimens that I have examined the arrangement of the spines of the aedeagus is not constant. At any rate the single male specimen from the Bahama Islands has more the characters of *delicata* than of *dorsivittata*. This specimen also has the pale middorsal stripe extend-



FIGS. 1-2. *Pintalia delicata*. 1. Lateral view of male genitalia. 2. Ventral view of male genitalia.

ing from the apex of the vertex across the pronotum and between the intermediate carina of the mesonotum and along the commissural margins of the tegmina. Otherwise the tegmina are fuscous, with the veins darker.

The male genitalia are similar to those in Caldwell's illustration and description of *delicata*, with the aedeagus with a terminal, somewhat decurved spine. The genital styles are similar to those illustrated by Caldwell, except that apically they are somewhat broader and decidedly more divergent than in Caldwell's *delicata*.

TYPE LOCALITY: Mexico: Guerrero and Tabasco.

NEW RECORDS FOR BAHAMA ISLANDS: One male, South Bimini Island, Bahamas, British West Indies, May, 1951 (M. Cazier and W. Gertsch).

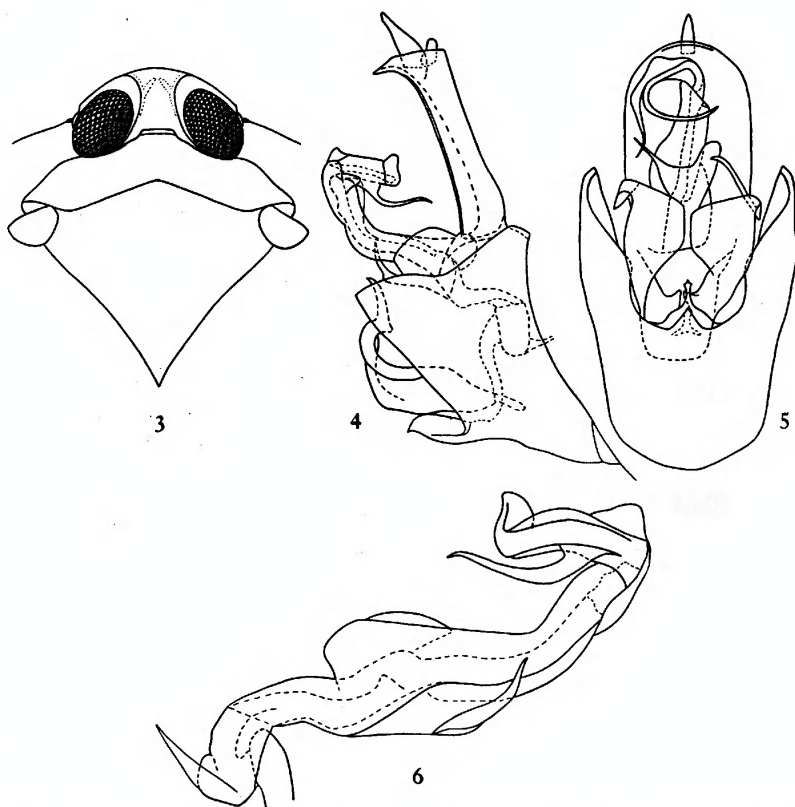
## CIXIINI

GENUS *MNEMOSYNE**Mnemosyne asymmetrica*, new species

## Figures 3-6

This species is somewhat smaller than *cubana* Stål. It gives the impression of being generally blackish or dark grayish in color, with the tegmina milky subhyaline, heavily marked with blackish fuscous in the female. In *cubana*, however, the impression is that the general color is testaceous; tegmina brownish subhyaline; and the female not so heavily marked with darker.

General color of the male brownish testaceous, more or less heavily marked with blackish or fuscous. Tegmina milky subhyaline with the veins darker, sometimes minutely spotted with paler; blackish spots on



FIGS. 3-6. *Mnemosyne asymmetrica*. 3. Head and thorax. 4. Lateral view of male genitalia. 5. Ventral view of male genitalia. 6. Left view of aedeagus.



the tegmina in the male small and irregularly scattered. Female with the same general bodily color but the tegmina heavily marked with blackish and fuscous, and usually a rather distinct fascia diagonally across the tegmina from the middle of the radial cell to the posterior apical angle; costal margin usually heavily spotted with fuscous; apical area with small scattered spots and the clavus usually heavily spotted with elongate spots, especially in the basal area.

Head a little more than half as wide as the pronotum; anterior margin broadly curved; posterior margin deeply and obtusely incised; crown about twice as long as broad, anterior and lateral margins strongly carinate; anterior areolet not deeply impressed; face about twice as long as the greatest width at the level of the antennae; frons, postclypeus, and anteclypeus subequal in length; median carina distinct on all three; lateral carinae distinct on the frons and postclypeus. Pronotum short and broad, the whole surface finely granulate; posterior margin shallowly, triangularly incised; lateral margins carinate. Mesonotum large; carinae indistinct.

Male genitalia with the pygofer elongate, narrow; posterior sinus toothed, median tooth narrow, minutely tridentate at the apex; genital styles narrow at the base, approximate; apical areas broad, somewhat quadrate, approximate on the median line; posterior lateral angle of the right style continued in a long slender process; posterior lateral angle of the left style broad, somewhat obtuse; aedeagus elongate with a pair of elongate apical spines, asymmetrically arranged; tenth segment elongate, greatly depressed; anal style elongate, about twice as long as broad. In comparison to the male genitalia of *cubana*, the type species of this genus, the genital styles differ in detail. The aedeagus is different, but the most characteristic difference is the fact that the anal segment in *cubana* is much shorter and much less depressed than in *asymmetrica*.

TYPE MATERIAL: Holotype, male, allotype, female, collected on South Bimini Island, Bahamas, British West Indies, June, 1951 (M. Cazier and C. and P. Vaurie). Forty male paratypes and 37 female paratypes collected on South Bimini Island in June and July, 1950 and 1951.

#### ARAEOPIDAE

#### ARAEOPINAE

#### ALOHINI

#### GENUS *STOBAERA*

*Stobaera bahamensis*, new species

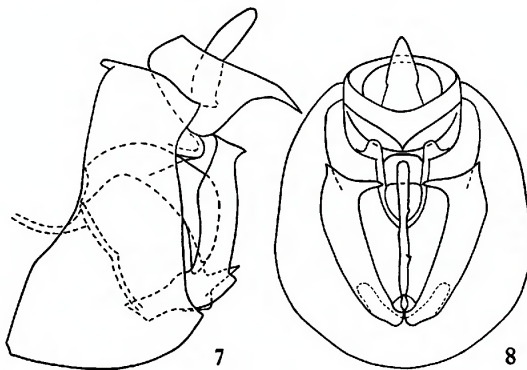
Figures 7-8

This species has a general resemblance to *tricarinata* Say but differs in being smaller in size, with the frons not distinctly fasciate, with paler

on the middle and the markings on the wings somewhat different; the genitalia are distinct.

General color of the dorsal part of the body tawny, clouded with fuscous and blackish and the carinae usually light ochraceous buff; head and pronotum mostly ochraceous tawny; mesonotum tawny, clouded with darker; frons ochraceous tawny between the eyes, pale ochraceous buff below; venter, including the legs, pale ochraceous buff; tibiae banded with blackish fuscous; tegmina and wings milky subhyaline, the veins white, with numerous rather large black punctures on the veins and irregular blackish fuscous or black fascia extending from the costal cell to the apex of the clavus; a broad, irregular blackish fuscous semicircular mark extending from the costal margin in front of the nodal cell to the posterior apical angle and then expanded to cover most of the apex of the tegmina; the nearly semicircular pale area inscribed by this blackish fuscous band clouded with an irregular fuscous mark.

Vertex nearly twice as broad as the median length; median carina and median areolet very distinct; transverse carina distinct. Pronotum on the median line nearly as long as the vertex; anterior margin truncate; posterior margin shallowly incised; median and intermediate carinae distinct, the latter reaching the posterior margin.



FIGS. 7-8. *Stobaera bahamensis*. 7. Lateral view of male genitalia. 8. Ventral view of male genitalia.

Male genitalia from the caudal view with the pygofer rather narrow and deep, the genital opening rather narrow and elongate; genital styles elongate, very slightly widened towards the apex; lateral margins nearly straight; inner apical angles strongly produced, outer apical angles acutely produced; aedeagus rather slender; when viewed laterally aedeagus rather broad, sharply curved; anal spine elongate, very acute. Length to apex of tegmina, 3.05 mm.

TYPE MATERIAL: Holotype, male, allotype, female, collected on South

Bimini Island, Bahamas, British West Indies, August 1951 (C. and P. Vaurie). Five male paratypes collected on South Bimini Island in August, 1951 (C. and P. Vaurie).

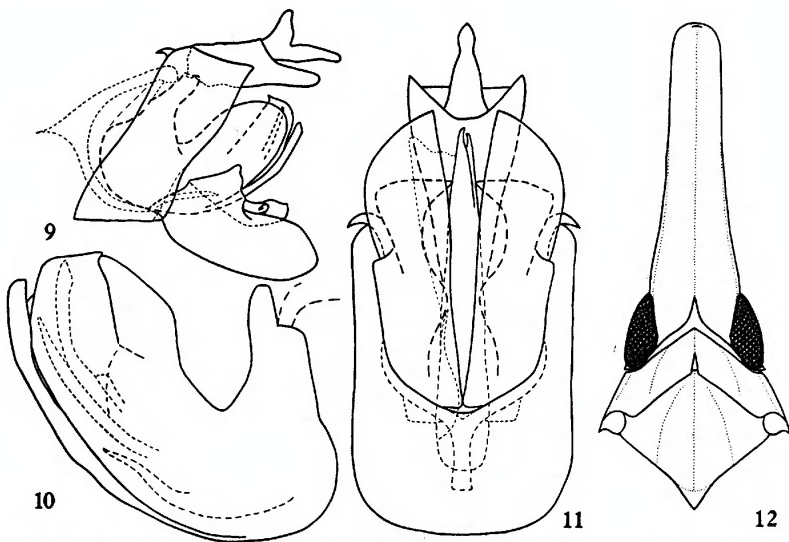
TROPIDUCHIDAE  
TAMBINIINAE  
TRYPETIMORPHINI  
GENUS *REMOSA*

*Remosa viridis*, new species

Figures 9-12

In general structure and color this species seems to be identical with *Remosa guérini* which is here proposed as a new name for *Fulgora spinolae* Guérin-Méneville (1856, p. 179), not *Fulgora spinolae* Westwood (1842, p. 118). Superficially *viridis* appears to be a somewhat more slender species, with a slightly more elongate and more slender cephalic process, but this is more apparent than real. In the details, however, of the characters of the male genitalia the two species are, I believe, sufficiently distinct.

General color above and beneath light greenish, apparently fading rather quickly in preserved specimens to pale ochraceous tawny; compound eyes mahogany red; apical spines of the hind tibiae and tarsi



FIGS. 9-12. *Remosa viridis*. 9. Lateral view of male genitalia. 10. Aedeagus. 11. Ventral view of male genitalia. 12. Head and thorax.



black; claws black; usually some of the carinae and some of the veins and cross veins in the tegmina deeper greenish in color.

Vertex, including cephalic process, usually nearly four times as long as the greatest width between the compound eyes, with median and lateral carinae distinct; lateral margins nearly parallel to the anterior margin of the compound eyes, then gradually narrowed to the apical third; apical third nearly parallel sided, with the apex broadly rounded and slightly upturned; posterior margin triangularly incised, with a narrow V-shaped incision on the median line. Pronotum more than three times as broad as its median length, anterior margin following the posterior margin of the compound eyes and the triangular incision in the vertex; posterior margin nearly parallel, with a distinct, narrow, V-shaped notch on the median line; median and intermediate carinae distinct; two distinct punctures on either side of the median carinae. Mesonotum large, tricarinate. Metanotum small, triangular.

Genital styles decidedly shorter and relatively much broader in *viridis* than in *guérini*; aedeagus much shorter and much broader in *viridis* than in *guérini*; dorsal lobe of aedeagus much more elongate in *guérini* than in *viridis*; ventral lobe apparently not so distinct in *guérini* and also much broader.

TYPE MATERIAL: Holotype, male, collected on South Bimini Island, Bahamas, British West Indies, June, 1951 (M. Cazier and C. and P. Vaurie). Allotype, female, collected on South Bimini Island, May, 1951 (M. Cazier and W. Gertsch). Twenty-six male paratypes collected on South Bimini: two in June, 1950; one in May, 1951; one in June, 1951; 18 in July, 1951; and four in August, 1951. Seven female paratypes collected on South Bimini: one in June, 1950; one in May, 1951; three in June, 1951; and two in July, 1951.

### TAMBINIINI

#### GENUS *PELITROPIS*

*Pelitropis cazieri*, new species

Figures 13, 14

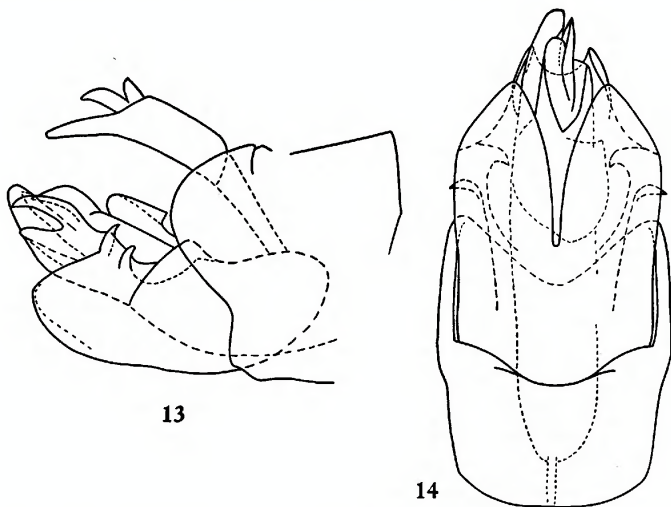
In general bodily structure and in coloration this species is very close to *rotulata* Van Duzee. Usually there are fewer cross veins in the membrane in *cazieri* than in *rotulata*, and in general the postnodal cross line is perhaps a little more distinct in *cazieri* than it is in *rotulata*; but in the genitalia there are apparently consistent and characteristic differences. The two dorsal recurved processes on the genital styles are about the same size and distinctly separated in *cazieri*, whereas in *rotulata* one process is only about half of the size of the other, and they are rather

close together. The details of the aedeagal structures are apparently constant.

General color of the head and thorax dorsally light ochraceous tawny, more or less marked with fuscous; carinae outlined with narrow borders of light red; compound eyes mahogany red. Tegmina milky subhyaline, with some of the veins and most of the cross veins blackish fuscous; beneath warm buff, including the legs which have the apices of the hind femora, the spines on the hind tibiae and tarsi, and all of the claws blackish fuscous.

Vertex about one and one-half times as broad between the compound eyes as its median length, anterior margin broadly curved, posterior margin subparallel, with a slight median notch, lateral margins nearly straight and parallel; whole surface minutely punctate. Frons one and one-half times as long as its greatest width; dorsal and lateral margins distinctly carinate; dorsal margin broadly curved; lateral margins nearly straight and parallel to the level of the antennae and then converging to the narrower clypeus. Pronotum nearly five times as broad as its median length; anterior margin broadly curved; the intermediate carinae meeting the median carina at the midline anteriorly and then deflecting but not reaching the posterior margin; posterior margin deeply incised. Mesonotum with the metanotum nearly square; the mesonotum with median and intermediate carinae distinct. Metanotum short, triangular.

Teeth on the dorsal margin of the male styles nearly equal in size,



FIGS. 13-14. *Pelitropis cazieri*. 13. Lateral view of male genitalia. 14. Ventral view of male genitalia.

rather obtuse; subapical appendage of the aedeagus bifid at the tip, tenth segment elongate, narrow, nearly twice as long as broad; the telson elongate, about half as long as the base of the tenth segment; when viewed ventrally the male genital styles are obtusely produced apically; in *rotulata* the styles are produced into a short, broad lobe at the apex.

TYPE MATERIAL: Holotype, male, collected on South Bimini Island, Bahamas, British West Indies, June 8, 1950 (M. Cazier and F. Rindge). Allotype, female, collected on South Bimini Island, May, 1951 (M. Cazier and W. Gertsch). One female paratype collected on South Bimini Island, June 13, 1950 (M. Cazier and F. Rindge).

#### FLATIDAE

#### FLATINAE

#### NEPHESINI

#### GENUS *MELORMENIS*

*Melormenis* METCALF, 1938, Bull. Mus. Comp. Zool. Harvard College, vol. 82, p. 395.

ORTHOTYPE: *Melormenis antillarum* Kirkaldy.

When I established this genus as a substitute for *Ormenis*, as interpreted by Melichar, I selected what I thought was an authentic specimen of the species *antillarum* Kirkaldy (*quadripunctata* Fabricius). Unfortunately this is not true, and the genus *Melormenis* must be redefined and a new genus erected for part of the species, chiefly those from Cuba, which were formerly assigned to *Melormenis*.

The genus *Melormenis* may be characterized briefly as follows: crown very short; frons longer than broad; tegmina triangular; apical margin truncate; apical and sutural angles nearly equal, with two subapical lines, the one nearest the apex rather remote from the apical margin, nearly parallel with it, and with most of the longitudinal veins forking beyond the subapical line; costal margin broader than costal cell at its widest point.

Male genitalia with the pygofer short; genital styles usually broad, quadrate, with a distinct, elongate, rather obtuse apical tooth; aedeagus robust, with usually at least two distinct, spine-like processes apically; tenth segment robust.

The following species, described in *Melormenis*, are herewith assigned as follows:

*Metcalfa frigida* Metcalf and Bruner (1948, p. 88).

*Metcalfa persea* Metcalf and Bruner (1948, p. 92).

*Metcalfa pruinosa* (Say) Metcalf and Bruner (1948, p. 96).

*Metcalfa pruinosa cubana* Metcalf and Bruner (1948, p. 96).

*Metcalfa siboney* Metcalf and Bruner (1948, p. 96).

GENUS *METCALFA**Metcalfa persea* (Metcalf and Bruner)

*Melormenis persea* METCALF AND BRUNER, 1948, p. 92, pl. 4, figs. 7, 10, pl. 12, figs. 10, 11.

There are in the present collection two females which agree in general structure and general coloration with this species, which was described from Cuba. Both specimens are much less pruinose than the type material, but otherwise they are similar enough to be included in this species.

TYPE LOCALITY: Cuba.

NEW RECORDS FOR BAHAMA ISLANDS: Two females, South Bimini Island, Bahamas, British West Indies, July, 1951 (C. and P. Vaurie).

*MELORMENOIDES*, NEW GENUS

ORTHOTYPE: *Melormenis inconspicua* Metcalf and Bruner (1948, p. 90).

The principal characters in this genus are the vertical tegmina, with a single subapical line somewhat removed from the apical border and the longitudinal veins mostly branched beyond the subapical line. The tenth segment is elongate, with a lobe-like process on the ventral margin. The aedeagus is stout, with the subapical spine sickle shaped.

*Melormenoides* is perhaps closest to *Metcalfa* Caldwell. From this genus it differs principally in the fact that the frons is usually only as long as broad or slightly longer. In *Metcalfa* only a few of the longitudinal veins beyond the subapical line are branched, whereas in *Melormenoides* virtually all of the longitudinal veins are branched. In *Metcalfa* the spines on the aedeagus have the ventral short, not elongate or sickle shaped; the dorsal spines are also much shorter and less conspicuous in *Metcalfa*.

Head with the compound eyes narrower than the pronotum; vertex all but covered by the protruding pronotum; face as long as broad or slightly longer; median carina absent or poorly developed. Tegmina vertical; costal cell as broad as or slightly broader than the subcostal cells, crossed by numerous cross veins.

Male genitalia with the styles rather large; dorsal process elongate, usually recurved and acute; aedeagus stout, with the subapical spines usually elongate, sickle shaped, the more dorsal apical spine elongate; tenth segment with a conspicuous lobe-like process on the ventral margin.

The following species assigned to *Melormenis* belong to this genus:

*Melormenoides variegata* Metcalf and Bruner (1948, p. 88).

*Melormenoides inconspicua* Metcalf and Bruner (1948, p. 90).

*Melormenoides maestralis* Metcalf and Bruner (1948, p. 90).

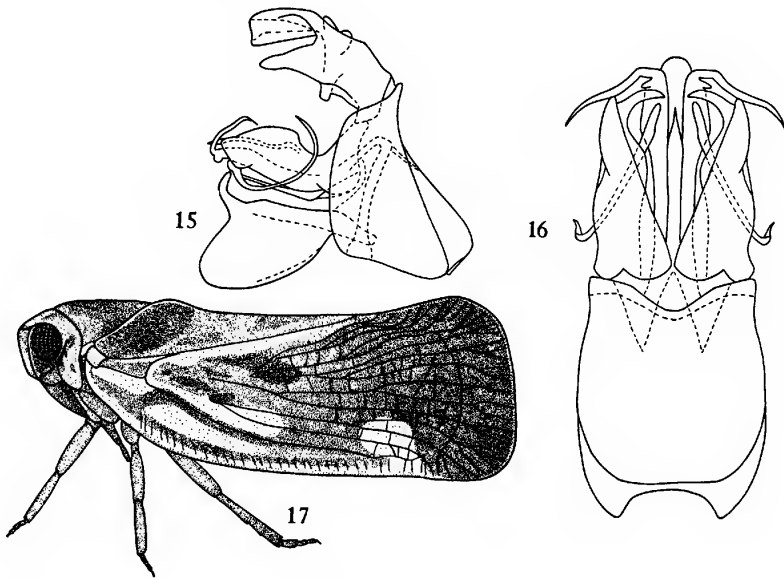
*Melormenoides asymmetrica* Metcalf and Bruner (1948, p. 92).

*Melormenoides fusca*, new species

## Figures 15-17

In general characteristics this species resembles *Melormenoides inconspicua* Metcalf and Bruner. It is, however, smaller, much darker in coloration, the frons is much narrower, and the genitalia show distinct characteristics.

General coloration similar to that of *Metcalfa siboney* but darker. General color of head, except the compound eyes, pronotum, and venter, including the legs, light ochraceous buff, perhaps more greenish in live specimens. Face, disc of pronotum, and segments of abdomen more or less clouded with light ochraceous tawny. Compound eyes fuscous. Mesonotum tawny, lightly clouded with fuscous. Tegmina generally fuscous, with a distinct stigmatal, translucent, whitish spot; costal margin and areas between the cells basally ochraceous buff; claval furrow pale ochraceous green.



FIGS. 15-17. *Melormenoides fusca*. 15. Lateral view of male genitalia. 16. Ventral view of male genitalia. 17. Lateral view.

Crown very short and broad, distinctly impressed posteriorly; frons about as broad as long, the lateral margins distinctly curved; median carina indistinct. Pronotum short and broad, the anterior margin truncate medially, posterior margin deeply incised, covering only about one-half



of the crown. Mesonotum large. Tegmina rather elongate, venation typical, strongly developed.

Male genitalia, when viewed ventrally, with the pygofer about as long as broad; posterior margin deeply incised; genital styles elongate, triangular, acute at their apices; when viewed laterally, the pygofer is much higher than long, with the anterior dorsal margin distinctly produced dorsad; genital styles broadly oval, more than half as broad as long; dorsal tooth distinctly prolonged and distinctly recurved; aedeagus robust, with dorsal and ventral apical spines; dorsal spine only about half as long as the ventral spine with a distinct lobe at the base; ventral spines elongate, strongly recurved, very slender, with a distinct lobe at the base; tenth segment not greatly prolonged beyond the anal spine; lateral margins distinctly prolonged posteriorly; ventral margin with a distinct quadrate process.

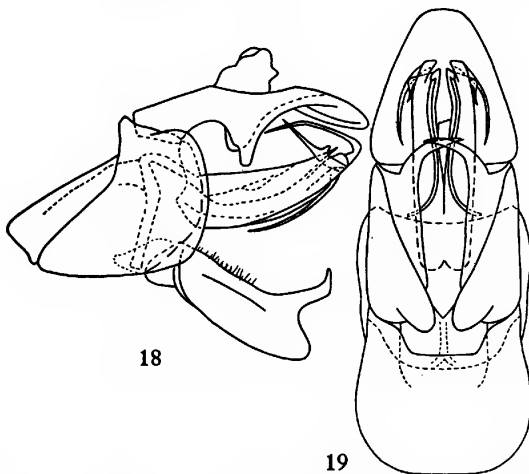
TYPE MATERIAL: Holotype, male, allotype, female, and four female paratypes all collected on South Bimini Island, July 23, 1951 (C. and P. Vaurie).

FLATOIDINAE  
GENUS *FLATOIDINUS*  
*Flatoidinus acutus* (Uhler)

Figures 18, 19

*Dasalia acuta* UHLER, 1901, Proc. Ent. Soc. Washington, vol. 4, p. 514.

*Flatoidinus acutus* METCALF AND BRUNER, 1948, Ann. Ent. Soc. Amer., vol. 41, p. 115.



FIGS. 18-19. *Flatoidinus acutus*. 18. Lateral view of male genitalia. 19. Ventral view of male genitalia.

This species has been recorded from Georgia and Florida and is apparently widely distributed in the West Indies, having been recorded from Cuba, Jamaica, and Haiti.

The species is very variable in color, ranging from specimens that are generally light ochraceous buff, with scattered small spots of fuscous, to forms that are buff in color, with a few large black spots, to forms that are almost uniformly tawny.

Crown of head about two-thirds as long as broad, apex obtuse. Other structural characters fairly constant.

Male genitalia with pygofer rather small when viewed ventrally, slightly broader than its median length; genital styles narrow, dorsal tooth elongate; aedeagus as long as telson; body terete; dorsal spine elongate, half as long as aedeagus, recurved; basal third of lateral spine relatively heavy, with a distinct obtuse tooth at its apex; ventral spine elongate, slender, about two-thirds of the length of aedeagus; tenth segment with an elongate, obtuse, ventral protuberance; telson as long as basal part of tenth segment.

TYPE LOCALITIES: Haiti, Dominican Republic, Cuba, and Florida.

NEW RECORDS FOR BAHAMA ISLANDS: Thirteen males and 30 females, South Bimini Island, Bahamas, British West Indies, June, 1950, May, June, July, August, 1951 (M. Cazier, W. Gertsch, F. Rindge, and C. and P. Vaurie).

## ISSIDAE

### ISSINAE

#### HYSTEROPTERINI

#### GENUS *COLPOPTERA*

#### *Colpoptera punctata*, new species

Figures 20, 21

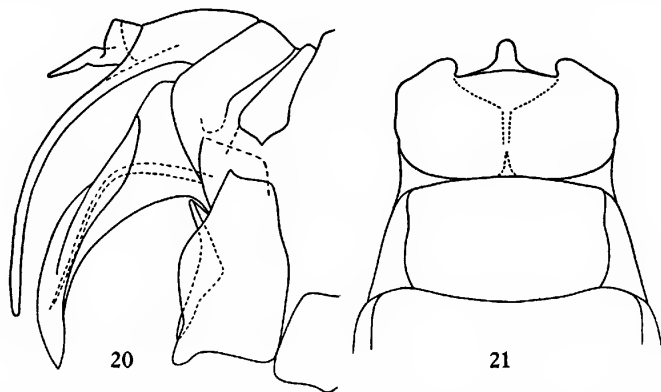
This species is closest to *clerodendri* Dozier in general coloration and structure; it differs, however, in both coloration and structural details.

General color of pronotum, vertex, face, and beneath, including the legs and the abdomen, ochraceous tawny; general color of pronotum and apical area of tegmina blackish fuscous; basal area of tegmina fuscous, strongly marked with ochraceous tawny; compound eyes black; frons clouded with fuscous basally and apically, the basal area having a more or less reddish cast; clypeus faintly clouded with fuscous, but with two distinct blackish fuscous points on either side of the median line at the base. Mesonotum with carinae distinctly marked with ochraceous orange; irregular patches of ochraceous orange in the lateral areas and the apical

third broadly clouded with the same color. Tegmina at the base mostly fuscous, strongly and irregularly blotched with ochraceous orange, with numerous transverse dashes of the same color in most of the cells; apical area, except the nodal area, strongly blackish fuscous, with some of the apical and reticulate veins whitish. This color usually makes a distinct spot at the base of the apical cells. Apices of the anterior and intermediate tibiae banded with black.

Vertex nearly three times as broad as its median length; anterior, lateral, and posterior margins strongly carinate; anterior margin nearly straight; lateral margins nearly straight and parallel; posterior margin broadly incised; frons nearly as broad as long; dorsal margins short and deeply incised; lateral margin strongly carinate and diverging to the level of the lower margin of the antennae and then strongly converging to the clypeal suture; median carina distinct, percurrent; whole surface of frons slightly irregular. Pronotum short and broad, anterior margin broadly curved, projecting forward beyond the middle of the compound eyes; posterior margin broadly incised; postocular areas narrow, elongate; surface of pronotum generally smooth, with the exception of two impressed points on the lateral areas. Mesonotum large, strongly elevated, tricarinate; median carina connected to intermediate carina by fine diverging carinae which run almost parallel to posterior margin of pronotum. Tegmina elongate, narrow, three times as long as greatest width; costal margin strongly curved basad, only slightly sinuate before apical border; apical margin nearly truncate, with apical and commissural angles broadly rounded; venation distinct and typical.

Telson of female elongate, slender, more than twice as long as basal part of tenth segment, about the same width throughout; last ventral



FIGS. 20-21. *Colpoptera punctata*. 20. Lateral view of female genitalia. 21. Last abdominal segment of female.

segment not so long as the penultimate, not quite twice as wide as its median length; posterior margin broadly, somewhat quadrately incised, with the posterior margin of incision with an elongate tooth.

Length to apex of tegmina, 5.10 mm.

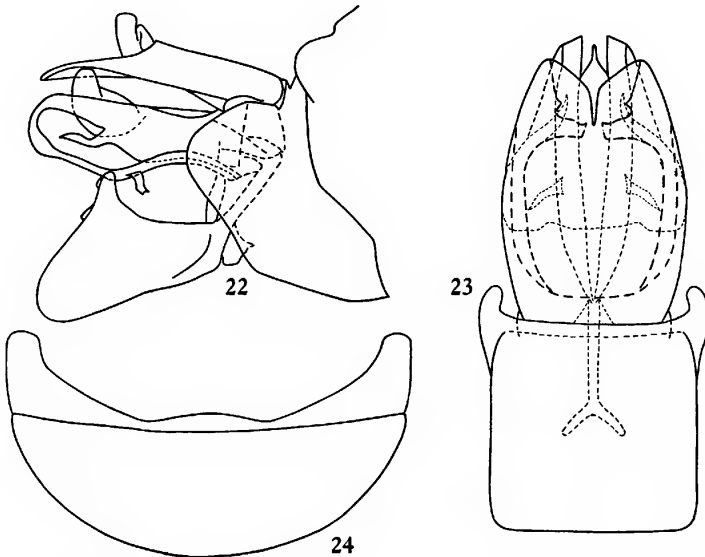
TYPE MATERIAL: Holotype, female, collected on South Bimini Island, Bahamas, British West Indies, May, 1951 (M. Cazier and W. Gertsch).

ACANALONIIDAE  
GENUS *ACANALONIA*  
*Acanalonia latifrons* (Walker)

Figures 22-24

*Poeciloptera latifrons* WALKER, 1851, List of homopterous insects, vol. 2, p. 457.

This species can be recognized by its large size, averaging 10 to 12 mm. to the apex of the tegmina, and by the bright green color of the body and tegmina. It has a wide distribution in the southeastern states, having been reported from virtually all the southern states east of the Mississippi and extending as far north as Pennsylvania. This is the first record beyond the continental United States.



FIGS. 22-24. *Acanalonia latifrons*. 22. Lateral view of male genitalia. 23. Ventral view of male genitalia. 24. Last abdominal segment of female.

Because there are no recent descriptions or illustrations of the male or female genitalia, both are included for the guidance of future students.

Male genitalia with the pygofer short and high; genital styles when viewed ventrally broadly oval, when viewed laterally broadly triangular, with the caudal angle broadly rounded and the dorsal tooth strongly elevated but obtuse; aedeagus elongate, strongly recurved; the two limbs subequal, dorsal limb with a strong acute tooth on the base of the apical third and the ventral limb with an elongate blunt tooth near the middle; tenth segment elongate, with the telson about half as long as the basal area of the segment. Last ventral segment of the female short and broad; posterior margin broadly incised and slightly produced caudad into a broad, short, rounded median lobe.

TYPE LOCALITY: Louisiana.

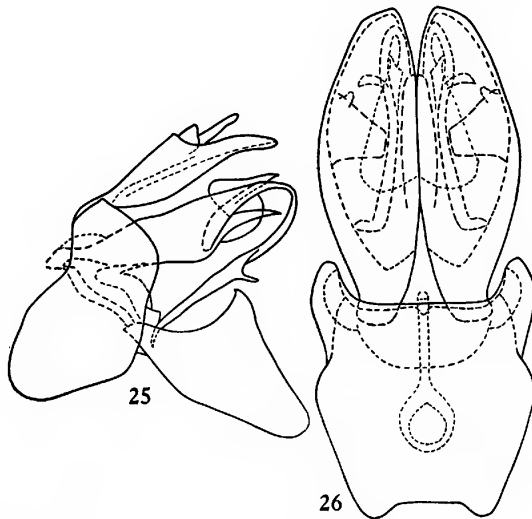
NEW RECORDS FOR BAHAMA ISLANDS: Seven males and four females, South Bimini Island, Bahamas, British West Indies, June, 1950, June, July, August, 1951 (M. Cazier, C. and P. Vaurie, and F. Rindge).

*Acanalonia pumila* (Van Duzee)

Figures 25, 26

*Amphiscepa pumila* VAN DUZEE, 1908, Proc. Acad. Nat. Sci. Philadelphia, for 1907, p. 495.

This is one of the smaller species of *Acanalonia*, usually about 4 mm. in length to the apex of the tegmina. Fresh specimens are pale greenish in color with the compound eyes brownish; tips of claws and spines at



FIGS. 25-26. *Acanalonia pumila*. 25. Lateral view of male genitalia. 26. Ventral view of male genitalia.



apex of hind tibiae and at apex of separate joints of the tarsi blackish. The male genitalia are slightly variable. I do not believe, however, that these variations constitute characters of specific importance.

This species was described originally from Florida and has since been recorded from North Carolina, Bermuda, Cuba, Isle of Pines, and Mona Island.

Because there are no recent descriptions or illustrations of the male genitalia, both are included.

Genital styles elongate, produced into a broad triangular, dorsal process; when viewed ventrally somewhat ovate, contiguous along the median line to near the apex; aedeagus when viewed laterally with a heavy main body which is provided with an elongate, recurved, subapical process as long as the body of the aedeagus; this process typically acute apically and with a short process at the base of the apical third; a short, subapical process on the aedeagus varies considerably in form.

TYPE LOCALITY: Florida.

NEW RECORDS FOR BAHAMA ISLANDS: Eight males and seven females, North Bimini Island, Bahamas, British West Indies, June and July, 1951 (M. Cazier and C. and P. Vaurie). One male and one female, South Bimini Island, May, 1951 (M. Cazier and W. Gertsch).

#### TETTIGELLIDAE

#### TETTIGELLINAE

#### DRAECULACEPHALINI

#### GENUS *CARNEOCEPHALA*

#### *Carneocephala sagittifera* (Uhler)

Figures 27-29

*Tettigonia* (*Diedrocephala*) *sagittifera* UHLER, 1895, Proc. Zool. Soc. London, p. 76.

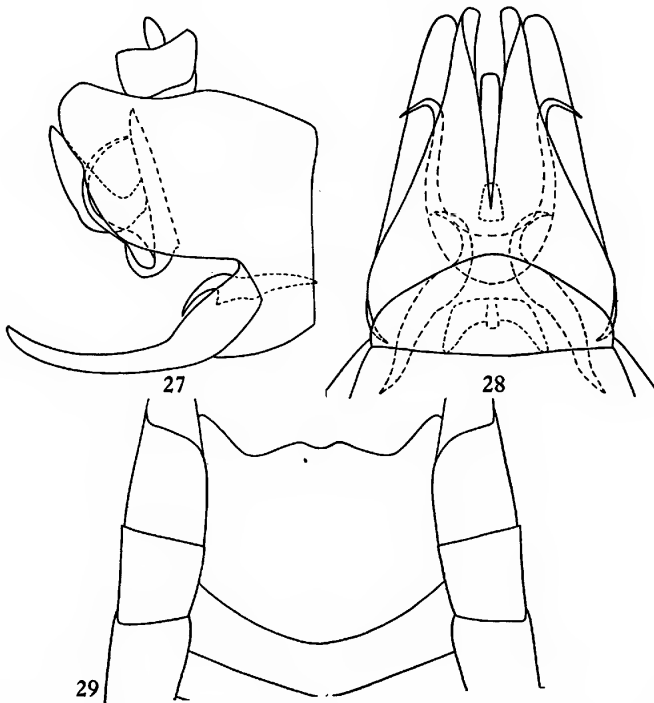
*Carneocephala sagittifera* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 12.

This species was described from St. Vincent Island and has been recorded from Mexico and Costa Rica, rather generally in the southern United States from California to Florida, north to Utah, Colorado, and Virginia. In the West Indies it has been recorded from Cuba, Isle of Pines, Jamaica, Puerto Rico, St. Croix Island, Vieques Island, Caja de Muertos Island, and Trinidad.

Color variable, crown and face chiefly tawny, heavily marked with light ochraceous buff and lightly with black. Pronotum green, with a row of submarginal blackish spots. Mesonotum pale green, with two pairs of black spots on the anterior border. Beneath, including the legs, chiefly

pale greenish. Tegmina green, apex and appendage black; veins pale green.

Crown broader than its median length, rather obtuse at apex, fairly convex, anterior margin broadly rounded to face; ocelli about equidistant from the compound eyes and posterior margin; whole surface of crown finely granulate; face rather protuberant; postclypeus about one and one-half times as long as its greatest width; whole surface distinctly granulate; lateral impressions indistinct; anteclypeus about as long as its basal width, basal half distinctly granulate, apical half distinctly, minutely, transversely striate on the median line; jugae elongate, narrow, seven or eight times as long as the greatest width, not reaching the lateral margin of genae; genae elongate, concave, lateral margin somewhat sinuate below the compound eyes; antennae set in a fairly distinctly impressed area below the broadly rounded anterior margin of head; first segments short, second segment nearly as wide as first and about twice as long; flagellum broad at base, gradually narrowed to middle, fine setae beyond middle. Pronotum broad and flat; anterior margin



FIGS. 27-29. *Carneocephala sagittifera*. 27. Lateral view of male genitalia. 28. Ventral view of male genitalia. 29. Last abdominal segment of female.

broadly rounded, distinctly depressed; whole surface finely granulate. Mesonotum slightly broader than its median length; median length shorter than median length of pronotum. Tegmina with venation strongly developed; reticulations in apical area rather coarse; appendix broad and elongate.

External male genitalia with last ventral segment about as long and about as wide as penultimate; posterior margin slightly concave, its median length slightly less than half the greatest width; valve more than twice as wide as the median length; genital plates as long as the pygofer, lateral margins slightly concave, gradually attenuate to rather elongate posterior processes. Internal male genitalia with genital styles elongate, narrow, acute at base, their apices strongly, outwardly curved and gradually narrowing to acute apices; aedeagus narrow, elongate, not so long as genital plates, with apex obtuse; a pair of elongate slender processes arising from near base and curving upward and slightly outward to acute apices. Female external genitalia with last ventral segment nearly four times as long as penultimate, slightly narrower, about one and one-half times as broad as the median length; posterior margin broadly incised laterally, produced posteriorly in a short, broad, median lobe which is notched on the posterior margin; pygofer elongate, about three times as long as last ventral segment, gradually broadened to the middle and then gradually narrowed to obtuse apices.

Length to apex of tegmina: males, 3.75 to 4.00 mm.; females, 4.80 to 5.00 mm.

TYPE LOCALITY: St. Vincent Island.

NEW RECORDS FOR BAHAMA ISLANDS: Sixty-three males and six females, South Bimini Island, Bahamas, British West Indies, July and August, 1951 (C. and P. Vaurie).

#### GYPONIDAE

#### GYPONINAE

#### GYPONINI

#### GENUS *PRAIRIANA*

#### *Prairiana serrata*, new species

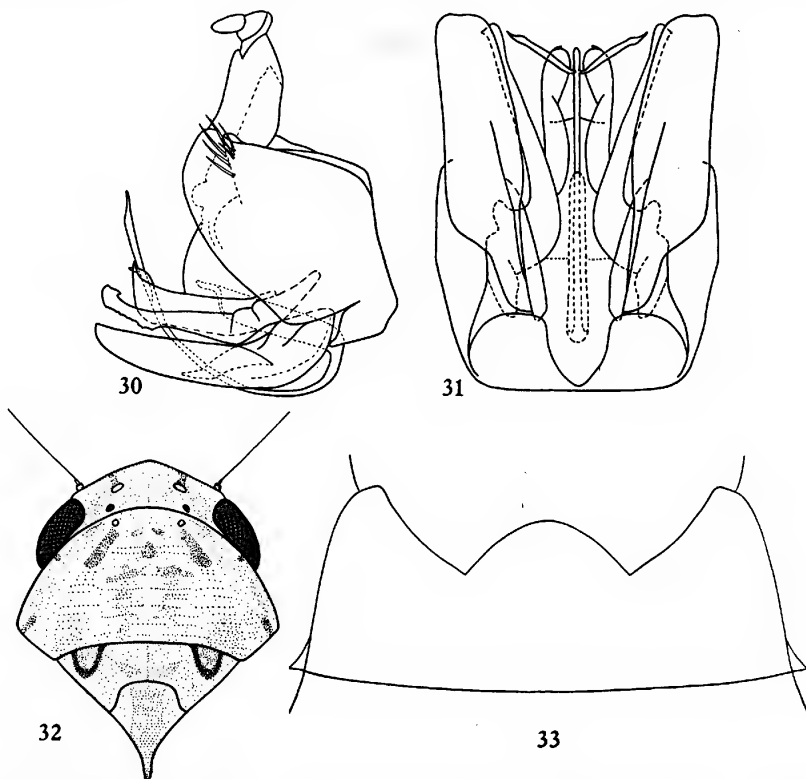
Figures 30-33

This is a medium-sized species of *Prairiana*, with the head and pronotum not strongly marked, the tegmina whitish, strongly marked with fuscous and blackish. The genitalia are similar to the genitalia of *Prairiana albimaculata* Osborn but are sufficiently distinct.

Color variable; crown, pronotum, and mesonotum chiefly ochraceous

buff, with irregular markings of fuscous; typically with a pair of blackish dots on the posterior margin of crown behind ocelli. Mesonotum with a pair of ocellated spots of blackish fuscous on the anterior lateral margins. Face chiefly blackish fuscous, with the lateral parts of the postclypeus ochraceous buff and irregular markings on the genae; anteclypeus ochraceous buff; eyes blackish fuscous. Tegmina chiefly whitish, with the cells marked with rows of fuscous or blackish dots which tend to coalesce and make irregular spots of fuscous or black. Legs ochraceous buff, with anterior and intermediate femora and tibiae twice ringed with fuscous or black; posterior tibiae with a row of blackish or fuscous spots at the base of the spines on the outer posterior margin. Venter, including the abdomen and genitalia, chiefly ochraceous buff.

Head rather narrow; crown about twice as broad as its median length, steeply sloping anteriorly; anterior margin slightly more sharply curved than the posterior margin; apical margin somewhat obtuse, with a fine



FIGS. 30-33. *Prairiana serrata*. 30. Lateral view of male genitalia. 31. Ventral view of male genitalia. 32. Head and thorax. 33. Last abdominal segment of female.

but distinct carina dorsally and ventrally; ocelli relatively large, postclypeus rather broad, about one-third longer than the greatest width; distinctly impressed below the anterior margin of the head, rather flat; anteclypeus short and broad, about one-third longer than its greatest width; lateral margins nearly parallel; genae large, flat; subantennal areas smooth; lateral areas strongly but finely rugulose. Pronotum not twice as broad as long, flat; finely transversely rugulose; anterior and anterior lateral margins forming an almost continuous curve; posterior lateral margins rather long; posterior margin shallowly incised. Mesonotum large, smooth. Tegmina rather elongate, narrow, venation distinct. Anterior and intermediate legs short and stout; the femora and tibiae subequal in length; anterior femora with a line of fine setae on the ventral margin and a row of very short spines on the dorsal margin; anterior tibiae with a row of spines on the anterior margin and a few stout spines on the posterior margin; intermediate femora stout, with a row of irregular spines on the ventral margin and a row of short spines on the dorsal margin; intermediate tibiae with a few rather stout spines on the anterior margin and the inner and outer posterior margin with four or five spines each; posterior tibiae nearly twice as long as femora; posterior femora with three stout spines at the apex; posterior tibiae with the outer anterior margin with a row of short stout spines; inner anterior margin with a close-set row of fine spines; outer posterior margin with a row of short stout spines and inner posterior margin with a row of thick-set stout spines.

Male genitalia with the pygofer rather small; genital plates elongate, ligulate; when viewed ventrally apex obtuse; dorsal lateral angle when viewed laterally more or less produced; genital styles with the bases enlarged with a distinct lobe laterally; apical area produced about as long as the genital plates; apex with the apical angles slightly toothed; aedeagus shorter than genital plates, shaft slender, strongly recurved, apex acute; basal lobes nearly as long as genital styles; apical appendages slender, elongate, the apices gradually acuminate. Female genitalia with the last ventral segment strongly and somewhat roundly produced; posterior margin deeply and somewhat triangularly incised for at least half the length of the segment; median lobe slightly and roundly produced; pygofers strongly swollen; apical half with numerous short, heavy setae.

Length: male, 6.75 mm. to 7.10 mm.; female, 7.80 mm. to 8.00 mm.

TYPE MATERIAL: Holotype, male, and allotype, female, collected on South Bimini Island, Bahamas, British West Indies, June 10, 1950 (M. Cazier and F. Rindge). Twenty-one male and five female paratypes collected on South Bimini Island, June, 1950.



EUSCELIDAE  
EUSCELINAE  
EUSCELINI  
GENUS *EXITIANUS*  
*Exitianus exitiosus* (Uhler)

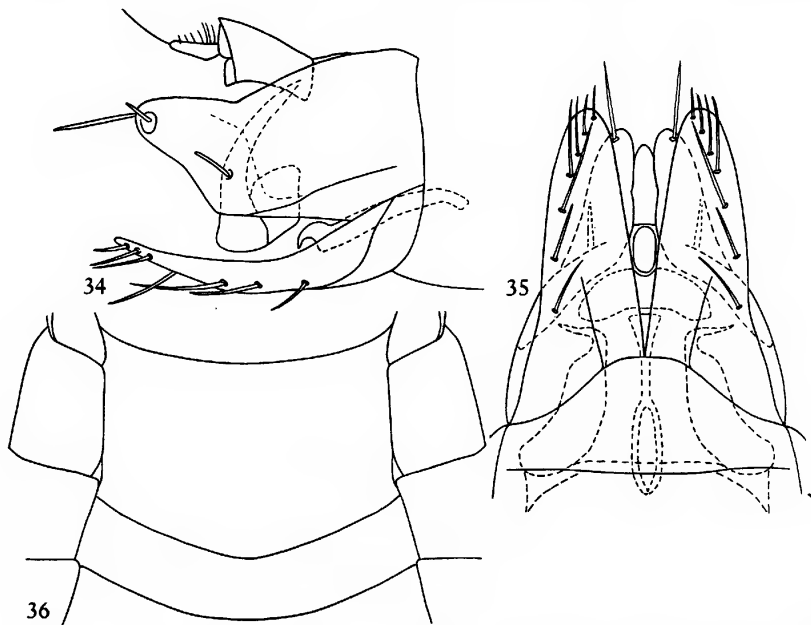
Figures 34-36

*Cicadula exitiosa* UHLER, 1880, Amer. Ent., vol. 3, p. 72.

*Exitianus exitiosus* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 69, pl. 34.

This species is widely distributed in the United States as far west as Colorado, southward to Mexico, and then to the West Indies. The series from South Bimini Island is quite variable as far as color is concerned.

Color chiefly grayish or greenish gray. The following markings are usually present in most of the specimens: a pair of large round black spots on the anterior margin of head; a brownish band extending behind the margin between the eyes; portions of this facia next to eyes usually blackish, and this blackish color sometimes extending towards the posterior margin of crown. Anterior margin of pronotum paler, with usually



FIGS. 34-36. *Exitianus exitiosus*. 34. Lateral view of male genitalia. 35. Ventral view of male genitalia. 36. Last abdominal segment of female.

two pairs of small black dots in this paler area. Mesonotum typically with a pair of rather large black spots in the anterior lateral angles. Tegmina grayish translucent, with the veins usually broadly or narrowly marked with blackish fuscous. Beneath chiefly pale ochraceous buff, variously marked with blackish and fuscous. Postclypeus usually with a series of fuscous marks, but the other markings variable.

Male genitalia with the pygofer elongate, broadly and obtusely triangularly produced caudad, as long as genital plates; typically with an elongate apical spine, a short subapical spine and medium long spine near the ventral margin; valve short and broad, obtusely triangularly produced on the posterior margin; genital plates elongate, attenuate, with a few stout spines on the ventral margin; genital styles heavy at the base, apex attenuate, acute, bent laterad; aedeagus simple, elongate, acute.

TYPE LOCALITIES: Maryland, Colorado, Texas, Florida, North Carolina, and South Carolina.

NEW RECORDS FOR BAHAMA ISLANDS: Thirty-six males and four females, South Bimini Island, Bahamas, British West Indies, May, June, July, and August, 1951 (M. Cazier, W. Gertsch, and C. and P. Vaurie).

THAMNOTETTIGINI  
GENUS *CIRCULIFER*  
*Circulifer tenellus* (Baker)

Figure 37

*Thamnotettix tenella* BAKER, 1896, Psyche, vol. 7, suppl. 1, p. 24.

*Circulifer tenellus* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 71.

This well-known vector of the curly top disease of sugar beets was described from Colorado and has a wide distribution in the western United States. East of the Mississippi River it has been recorded from

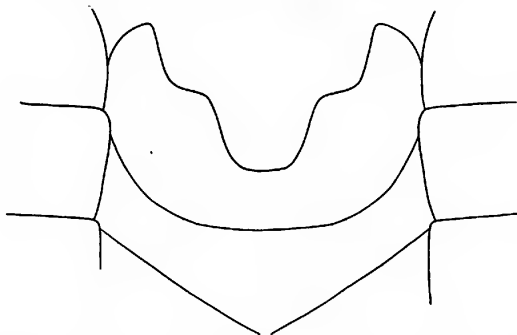


FIG. 37. *Circulifer tenellus*. Last abdominal segment of female.

Florida, Illinois, Michigan, Minnesota, and Ohio. Beyond the continental United States it has been recorded in Canada from British Columbia, Saskatchewan, Manitoba, Ontario, to Quebec; in Mexico from Baja California and Sinaloa; in the West Indies from Jamaica, Puerto Rico, and Vieques Island; very generally in the Mediterranean region, at least from Palestine, France (?), Sicily, Algeria, Tunisia, Tripolitania, and Spain. It has also been recorded from Finland.

This species is very variable in color, but the male and female genitalia are distinctive. Last ventral segment of female broad, deeply incised on the posterior margin, this incision with its lateral margins triangularly produced at the middle.

There is a single female in the present collection from South Bimini Island, Bahamas, British West Indies, July, 1951 (C. and P. Vaurie).

TYPE LOCALITIES: New Mexico and Colorado.

#### ACINOPTERINI

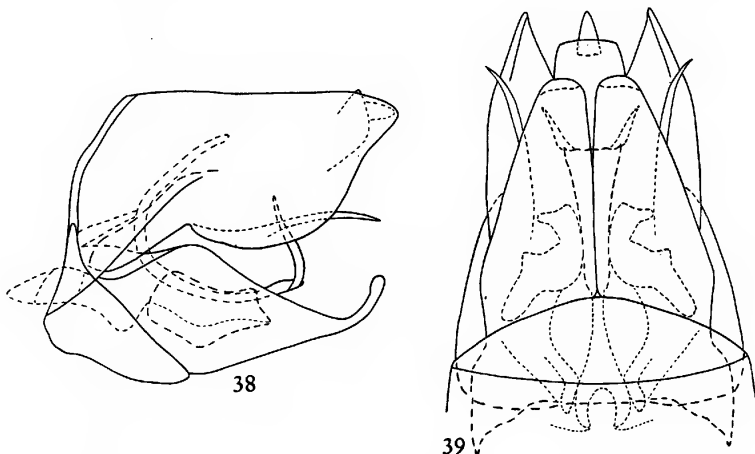
#### GENUS *CHLOROTETTIX*

#### *Chlorotettix floridanus* De Long

Figures 38, 39

*Chlorotettix floridanus* DE LONG, 1945, Lloydia, vol. 8, p. 17.

This species was described originally from Florida and has since been recorded from most of the Gulf states. The general color is bright greenish or greenish yellow, without distinctive markings. Genitalia distinct.



FIGS. 38-39. *Chlorotettix floridanus*. 38. Lateral view of male genitalia. 39. Ventral view of male genitalia.

Aedeagus broadly U-shaped, with four elongate apical appendages directed dorsad. Ventral margin of pygofer with an elongate slender spine directed caudad.

TYPE LOCALITY: Florida.

There is a single male in the present collection from South Bimini Island, Bahamas, British West Indies, August, 1951 (C. and P. Vaurie).

DELTOCEPHALINAE  
DELTOCEPHALINI  
GENUS *DELTOCEPHALUS*  
*Deltocephalus flavicosta* (Stål)

*J[assus]* (*Deltocephalus*) *flavicosta* STÅL, 1862, Handl. Svenska Vet. Akad., vol. 3, pt. 6, p. 53.

*Deltocephalus flavicosta* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 53, pl. 24.

This species was described from Rio de Janeiro and has a wide distribution from the northern United States, Canada, St. Croix Island, New Brunswick, as far west as Iowa, Kansas, Missouri, Tennessee, and Mississippi, south through Mexico, Baja California, and Central America, and throughout the West Indies to Paraguay, Bolivia, Brazil, and Argentina.

It can be recognized by its general blackish color dorsally, with the veins of the tegmina usually ochraceous yellow and the costal margin broadly greenish yellow or ochraceous yellow. Face, venter of thorax, and abdomen chiefly blackish or blackish fuscous, with legs pale ochraceous yellow. Male genitalia distinct.

TYPE LOCALITY: Rio de Janeiro.

NEW RECORDS FOR BAHAMA ISLANDS: Three males and eight females, South Bimini Island, Bahamas, British West Indies, July, 1947, and August, 1951 (C. and P. Vaurie).

*Deltocephalus maculellus* Osborn

Figures 40-42

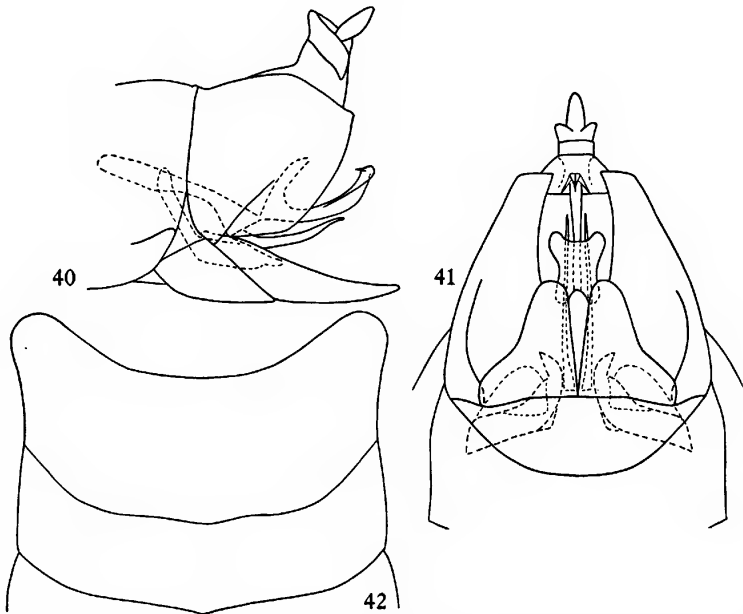
*Deltocephalus maculellus* OSBORN, 1926, Ann. Ent. Soc. Amer., vol. 19, p. 345.

*Deltocephalus maculellus* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 54, pl. 24.

This species was described from Cuba and has been recorded from Puerto Rico and adjacent islands. So far as the record shows it has not been listed from the other Greater Antilles, from the Lesser Antilles, or from Florida.

General color dorsally and ventrally grayish or greenish yellow, more or less clouded with fuscous. Anterior margin of crown with three pairs of small black spots, the inner pair usually larger. Veins of tegmina pale, margined with brownish. Dorsal half of face blackish or blackish fuscous, with pale yellow arcs or irregular spots. Aedeagus of male with a median acute triangular tooth ventrad and a pair of lateral teeth.

Male genitalia relatively simple, genital plates, aedeagus, and pygofer all of approximately the same length; male valve bluntly produced on posterior border, about half as long as wide; genital plates gradually acuminate, divergent apically; genital styles elongate, the inner apical angle bluntly produced; aedeagus with an elongate basal process which



FIGS. 40-42. *Deltocephalus maculellus*. 40. Lateral view of male genitalia. 41. Ventral view of male genitalia. 42. Last abdominal segment of female.

is gradually acuminate; body of aedeagus U-shaped; apex of aedeagus with a pair of lateral teeth and a median tooth. Last ventral segment of female broad, nearly three times as broad as its median length; lateral posterior angles broadly, roundly produced; posterior margin broadly, circularly incised.

TYPE LOCALITY: Cuba.

NEW RECORDS FOR BAHAMA ISLANDS: Forty-four males and 33 females, ~~South~~ Bimini Island, Bahamas, British West Indies, May, June,



July, and August, 1951 (C. and P. Vaurie, M. Cazier, and W. Gertsch).

*Deltocephalus sonorus* Ball

Figures 43-45

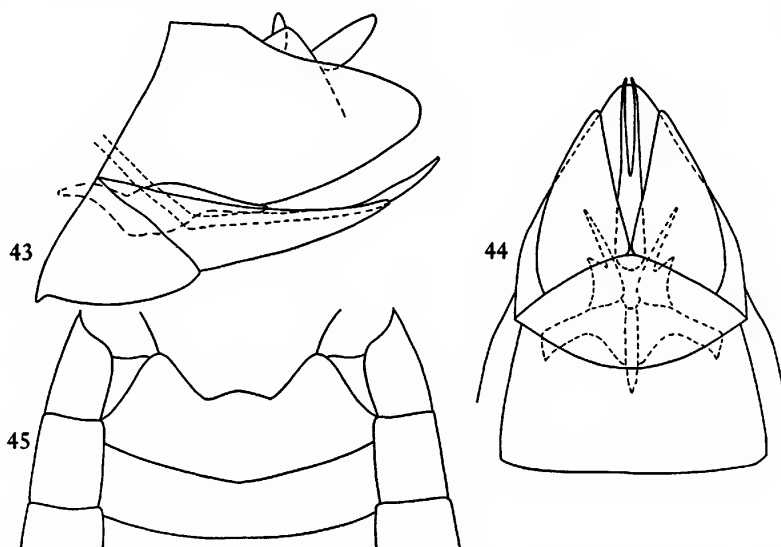
*Deltocephalus sonorus* BALL, 1900, Canadian Ent., vol. 32, p. 344.

*Deltocephalus sonorus* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 52, pl. 24.

This species was described originally from Arizona but has been recorded from California to Florida, north to New Brunswick, and west to South Dakota and Utah. Southward it has been recorded in Baja California and throughout the Greater Antilles.

This is a rather variable species as far as color is concerned but is rather constant in structural characters. The crown is a little more angled than in some species of *Deltocephalus*, and the male genitalia are relatively simple.

General color light ochraceous buff, sometimes with a greenish tinge and sometimes more or less marked with light ochraceous tawny. The following marks are usually present: two pairs of round black spots at anterior margin of crown, the lateral pair larger; beneath, including the legs, chiefly ochraceous tawny.



FIGS. 43-45. *Deltocephalus sonorus*. 43. Lateral view of male genitalia. 44. Ventral view of male genitalia. 45. Last abdominal segment of female.

Male genitalia with the valve strongly produced, about twice as broad as long; genital plates gradually acuminate with the inner margins,

widely separated; genital styles with the inner apical angle strongly produced and gradually acuminate, longer than the base; aedeagus slender, simple, the apex biramose. Female genitalia with the last ventral segment nearly three times as broad as its median length; lateral apical angles strongly produced; posterior margin rather deeply incised and produced on the median line in a short triangular tooth.

TYPE LOCALITY: Arizona.

NEW RECORDS FOR BAHAMA ISLANDS: Six males and seven females, South Bimini Island, Bahamas, British West Indies, May, June, July, and August, 1951 (C. and P. Vaurie, M. Cazier, and W. Gertsch).

### SCAPHOIDEINI

#### GENUS *SANCTANUS*

*Sanctanus fasciatus* (Osborn)

Figure 46

*Scaphoideus fasciatus* OSBORN, 1900, Jour. Cincinnati Soc. Nat. Hist., vol. 19, p. 190.

*Sanctanus fasciatus* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 58, pl. 27.

This species was originally described from Haiti and Mexico. Since that time it has been recorded from the southeastern United States, from New Jersey to Texas, south into Mexico and Central America, and several of the islands of the West Indies to British Guiana and Brazil.

It is apparently a very variable species as far as color is concerned but rather constant as far as structural characters can be determined. There are three specimens in the present collection which are rather heavily marked with testaceous and blackish, but otherwise they agree with the description given by Caldwell and Martorell.

Last ventral segment of female about as long as the penultimate;

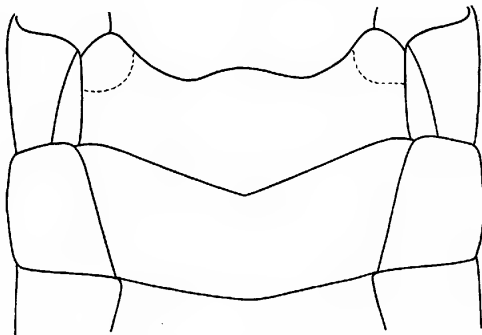


FIG. 46. *Sanctanus fasciatus*. Last abdominal segment of female.

posterior margin broadly, shallowly incised, median area of incision slightly, roundly produced.

TYPE LOCALITIES: Haiti, Mexico, West Indies, and Florida.

NEW RECORDS FOR BAHAMA ISLANDS: Three females, South Bimini Island, Bahamas, British West Indies, August, 1951 (C. and P. Vaurie).

## GENUS *OSBORNELLUS*

*Osbornellus fasciatus*, new species

Figures 47-49

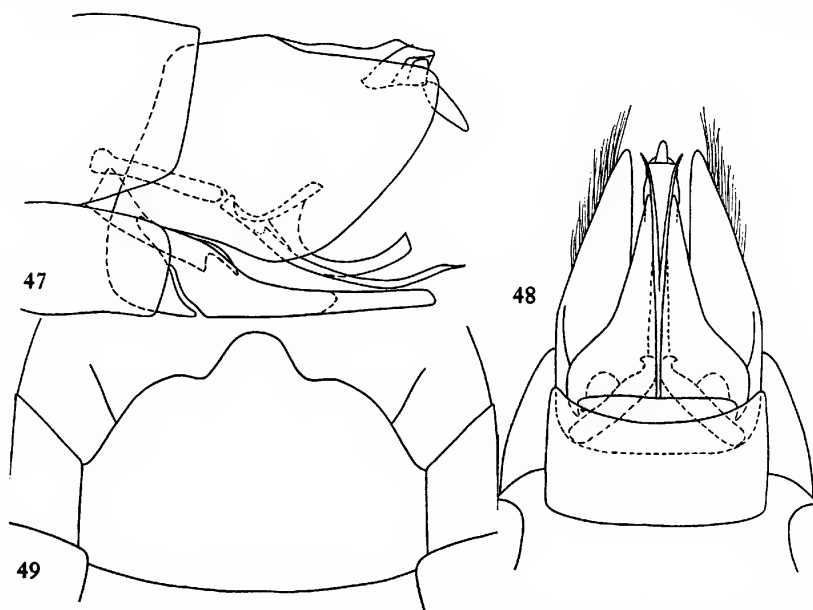
Color variable; in the darker specimens head, thorax, and venter, including legs, ochraceous buff, marked with tawny; in the paler specimens head, thorax, and venter light ochraceous buff or pale ochraceous buff with tawny markings. Tegmina pale ochraceous buff with veins heavily marked with tawny or fuscous and cells mostly clouded with fuscous; anterior margin of head ochraceous buff or pale ochraceous buff, with a distinct blackish fascia bordering its posterior margin; behind the blackish fascia a fascia of ochraceous buff or pale ochraceous buff; in the darker colored specimens this is bordered by a black fascia; in the paler specimens this transverse fascia indefinite and tawny in color.

Crown pale ochraceous buff or ochraceous buff more or less clouded with tawny; eyes tawny; face below the pale anterior border of head with a blackish fascia, below this another pale fascia of about equal width; in some specimens this ventral pale fascia bordered by a blackish transverse fascia; in other specimens the transverse fascia tawny in color; face strongly marked with fuscous laterally, and this fuscous color interrupted by four or more short, abbreviated, pale arcs; central area of face generally pale; genae, juga, and anteclypeus usually pale, more or less clouded with tawny. Pronotum ochraceous buff or pale ochraceous buff, irregularly clouded with ochraceous tawny. Legs chiefly ochraceous buff with anterior and intermediate legs more or less clouded with ochraceous tawny; hind tibiae distinctly ringed with blackish fuscous and basal half of basitarsi of the hind tarsi whitish, apical half blackish; second segment entirely blackish and third segment whitish, with exception of the claws which are ochraceous tawny. Tegmina pale ochraceous buff or whitish in ground color, with the vein strongly marked with tawny and blackish; cells, with the exception of first basal, nodal, first apical, and first anteapical, more or less clouded with tawny or fuscous.

Head not quite so wide as pronotum; crown slightly broader at base than median length, with a fine but fairly distinct median impressed line; postclypeus flat, narrow, about twice as long as its median width; genae

large and flat, very slightly sinuate below the compound eyes; juga large, lateral margins broadly curved; narrowly separated from lateral margins of genae; anteclypeus nearly twice as long as broad. Pronotum broad and flat, nearly twice as broad as the median length; anterior margin broadly curved; anterior lateral margin only about half as long as the posterior lateral margins; posterior margin broadly, shallowly incised. Mesonotum large. Tegmina elongate, narrow, venation distinct; anterior nodal vein arising from the basal cell; posterior nodal vein arising from the second anteapical cell; first anteapical cell small, ovoid; second apical cell restricted basally.

Male genitalia with the last ventral segment broad and short, about twice as broad as long; posterior margin broadly but shallowly incised; valve short and broad, nearly truncate posteriorly; genital plates shorter than the pygofer; slightly broader basally than the valve, bases about half as long as the gradually attenuated apices; pygofer, viewed ventrally, rather narrow, elongate; viewed laterally nearly as high as long; aedeagus slightly recurved, with a single dorsal process near the base and with a pair of elongate slender processes which arise near the base and are longer than the shaft of the aedeagus itself; tenth segment small, telson rather elongate. Female, last ventral segment about three times as long as the penultimate, one-third broader than its median length; pos-



FIGS. 47-49. *Osbornellus fasciatus*. 47. Lateral view of male genitalia. 48. Ventral view of male genitalia. 49. Last abdominal segment of female.

terior margin broadly incised with a distinct quadrate tooth medianly.

Length to apex of tegmina: males, 3.75 mm. to 4.00 mm.; females, 4.5 mm.

TYPE MATERIAL: Holotype, male, collected on South Bimini Island, Bahamas, British West Indies, June 8, 1950 (Cazier and F. Rindge). Two male paratypes collected on South Bimini Island, May, 1951, and June, 1950 (M. Cazier, F. Rindge, and W. Gertsch).

### XESTOCEPHALINI

#### GENUS *XESTOCEPHALUS*

*Xestocephalus pulicarius* Van Duzee

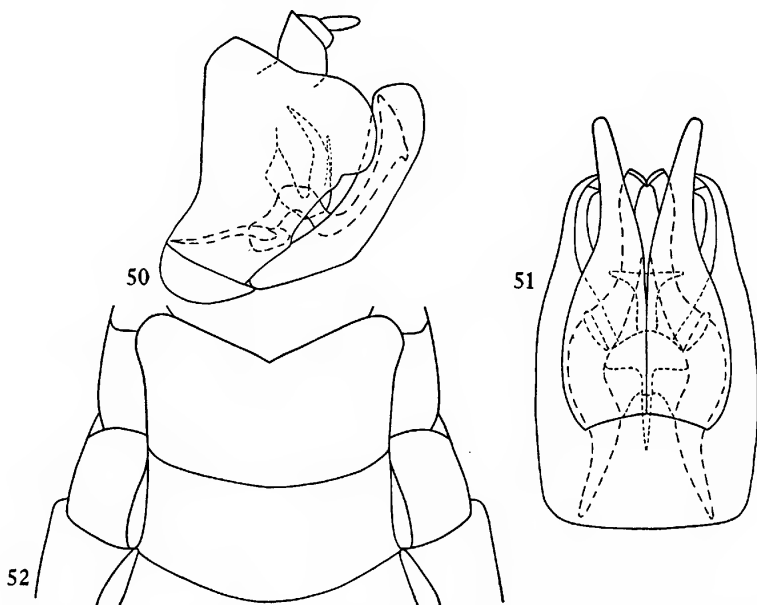
Figures 50-52

*Xestocephalus pulicarius* VAN DUZEE, 1894, Bull. Buffalo Soc. Nat. Sci., vol. 5, p. 215.

*Xestocephalus pulicarius* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 37, pl. 18.

This species has a wide distribution from Ontario and Quebec on the north, south in the continental United States to Florida and Mississippi and west to Utah and South Dakota at least, in the West Indies, Jamaica, Cuba, Puerto Rico, in South America in Bolivia and Brazil.

Male genital plates when viewed ventrally with the basal half broad,



FIGS. 50-52. *Xestocephalus pulicarius*. 50. Lateral view of male genitalia. 51. Ventral view of male genitalia. 52. Last abdominal segment of female.

contiguous, the apical half attenuate, apices divergent, obtuse; when viewed laterally the styles are elongate with apex capitate, dorsal angle broadly, triangularly produced, ventral angle short, triangular; aedeagus elbowed, distal arm elongate, acute, with an elongate slender tooth on the basal third.

TYPE LOCALITIES: New York; Canada: Ontario.

NEW RECORDS FOR BAHAMA ISLANDS: Twenty males and 40 females, South Bimini Island, Bahamas, British West Indies, May, June, July, and August, 1951 (C. and P. Vaurie and M. Cazier).

BALCLUTHINI  
GENUS *NESOSTELES*

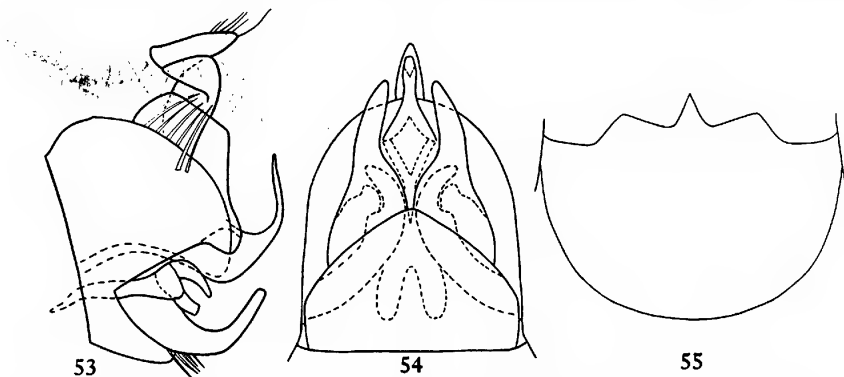
*Nesosteles sandersi* (Davidson and De Long)

Figures 53-55

*Agellus sandersi* DAVIDSON AND DE LONG, 1935, Proc. Ent. Soc. Washington, vol. 37, p. 108.

This species was originally described from the Canal Zone and has since been recorded from Puerto Rico. It is a slender grayish green species, usually without conspicuous color markings except on the dorsum of the abdomen which is typically marked with blackish fuscous; crown very short and broad.

Male genitalia with the valve more than half as long as broad; posterior margin broadly triangular; genital plates produced caudad, narrowed to blunt apices, with the inner margins somewhat divergent; apical portion strongly bent dorsad; genital styles elongate, with the inner apical angle strongly, broadly, obtusely produced; outer angle nearly rectangular; aedeagus with a large basal portion and an apical portion which is very slender and directed dorsad; posterior ventral process of pygofer



FIGS. 53-55. *Nesosteles sandersi*. 53. Lateral view of male genitalia. 54. Ventral view of male genitalia. 55. Last abdominal segment of female.

short, broad, obtusely produced. Last ventral segment of female about one and one-half times as broad as its median length; posterior margin broadly, somewhat triangularly incised with a fairly acute triangular median tooth.

TYPE LOCALITY: Canal Zone.

NEW RECORDS FOR BAHAMA ISLANDS: Fifty-eight males and 16 females, South Bimini Island, Bahamas, British West Indies, May, June, July, and August, 1951 (C. and P. Vaurie, M. Cazier, and W. Gertsch).

#### MACROSTELINI

#### GENUS *MACROSTELIS*

#### SUBGENUS *MACROSTELIS*

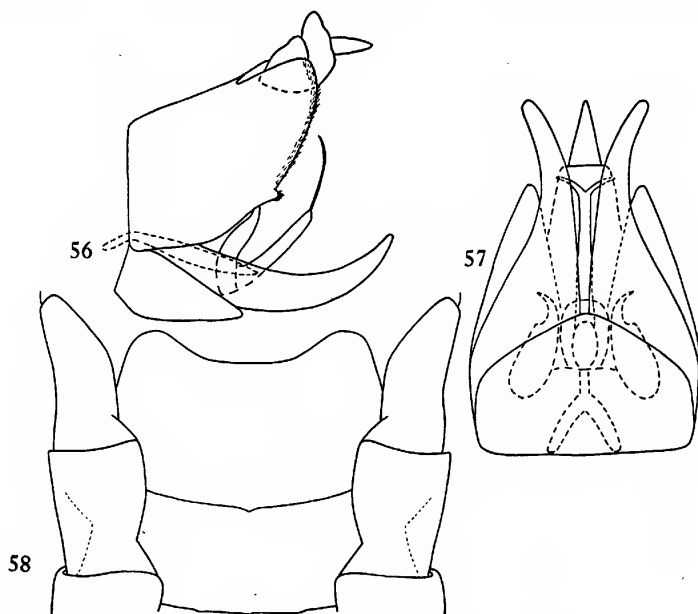
#### *Macrosteles (Macrosteles) divisa* (Uhler)

Figures 56-58

*Iassus divisa* UHLER, 1877, Bull. U. S. Geol. Surv. Terr., vol. 3, pt. 2, p. 472.

*Macrosteles divisa* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 74, pl. 37.

This well-known North American species has been recorded from Quebec and Ontario and from most of the states where extensive collecting has been done. It has recently been reported from Puerto Rico.



FIGS. 56-58. *Macrosteles (Macrosteles) divisa*. 56. Lateral view of male genitalia. 57. Ventral view of male genitalia. 58. Last abdominal segment of female.



This species varies very greatly in color and color markings. The specimens in the present collection are chiefly greenish or yellowish on the head, pronotum, and mesonotum, with conspicuous black or fuscous marks on the head and mesonotum. Tegmina translucent, veins whitish; blackish color of the dorsum of the abdomen shining through the translucent tegmina. These specimens have a pair of large black spots on the dorsal margin of the postclypeus, a pair of spots or bars near the anterior margin of the crown, and another usually smaller pair near the posterior margin; lateral angles of the mesonotum marked with blackish.

Male valve less than twice as broad as long, strongly, broadly, somewhat triangularly produced on the posterior margin; genital plates elongate, longer than pygofer, broad at base, as broad as valve, gradually acuminate, diverging; apex obtuse; genital styles short and broad, inner apical angle strongly, acutely produced, curving laterad; aedeagus elbowed, distal arm slender, with a pair of elongate terminal processes; pygofer elongate, with a lobe-like process on the ventral margin.

TYPE LOCALITY: Colorado.

NEW RECORDS FOR BAHAMA ISLANDS: One male and three females, South Bimini Island, Bahamas, British West Indies, May and August, 1951 (M. Cazier, W. Gertsch and C. and P. Vaurie).

COELIDIIDAE

COELIDIINAE

COELIDIINI

GENUS *COELIDIA*

*Coelidia albifasciata*, new species

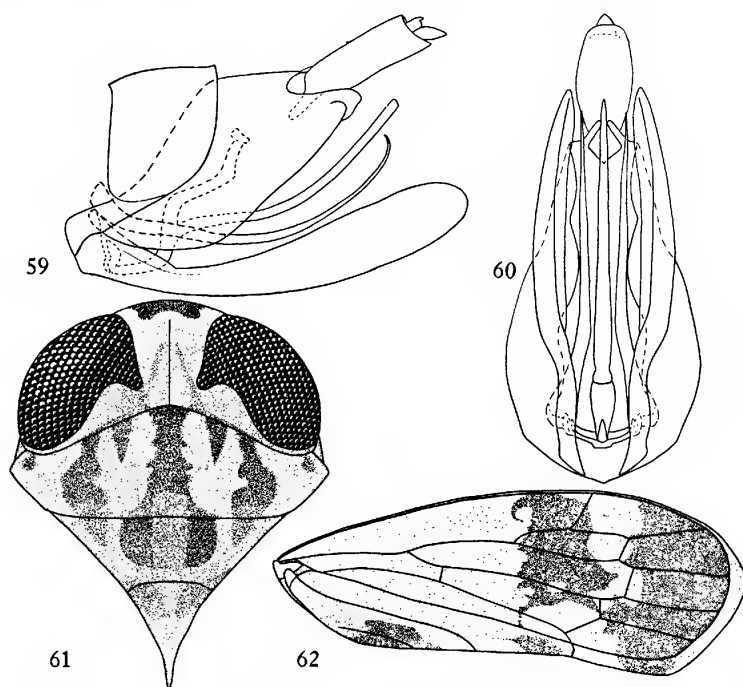
Figures 59-62

This is one of the conspicuously colored, medium-sized species of this genus.

General color of head, thorax, tegmina, and legs ochraceous buff, heavily marked with black. Compound eyes black. Dorsal margin of face with a transverse blackish fascia. Postclypeus with several brownish arcs laterally. Pronotum with a broad median blackish vitta triangularly expanded posteriorly, two short triangular vittae laterad and a pair of broad vittae behind the compound eyes which are continued across the mesonotum. Lateral margins of the mesonotum chiefly blackish fuscous. Median area of mesonotum with a large quadrate blackish spot. Clavus chiefly blackish fuscous; basal area of tegmina ochraceous buff, with whitish veins; a broad irregular blackish fascia runs from the costal margin to the commisural margin, followed by an irregular whitish fascia; apical cells chiefly blackish fuscous; appendix whitish. Legs ochraceous

tawny; dorsum of abdomen chiefly ochraceous tawny. Venter chiefly blackish fuscous, with sheaths of ovipositor chiefly ochraceous buff.

Crown slightly longer than its anterior width; anterior margin nearly twice as long as the posterior margin; postocular areas relatively large; postclypeus nearly twice as long as its median width; anteclypeus twice as long as its median width, apex expanded, apical margin slightly sinuate; cheeks large, definitely striate; juga large, elongate. Pronotum nearly three times as broad as long, only slightly broader than head; surface somewhat coarsely rugulose. Mesonotum narrower than pronotum; nearly as wide as long.



FIGS. 59–62. *Coelidia albifasciata*. 59. Lateral view of male genitalia. 60. Ventral view of male genitalia. 61. Head and thorax. 62. Venation of tegmen.

Male genitalia when viewed laterally with genital plates elongate, somewhat broadened apically, with apex broadly rounded; genital styles elongate, attenuate, apex acute; aedeagus elongate, parallel sided, apex obtuse; tenth segment elongate, about four times as long as broad; pygofer with a pair of processes at the apex which are nearly parallel sided, obtuse and directed mesad.

Length to apex of tegmina, 5.25 mm.

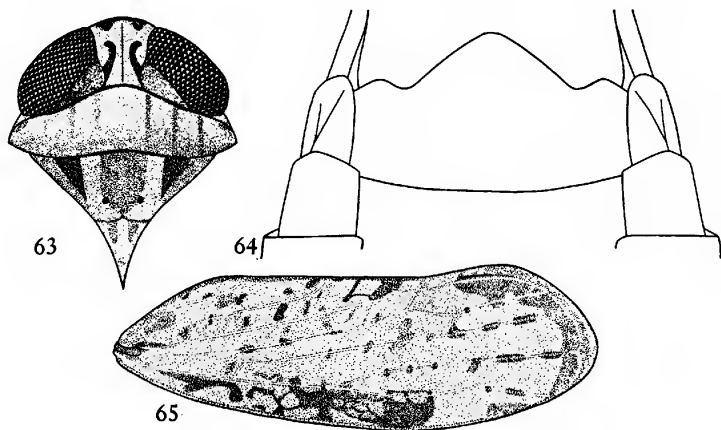
TYPE MATERIAL: Holotype, male, collected on South Bimini Island, Bahamas, British West Indies, June 16, 1950 (M. Cazier and F. Rindge).

*Coelidia punctata*, new species

Figures 63–65

Except for color and minor details in the last ventral segment of the female this species is very close to *floridana* Lawson.

General color of body and legs ochraceous tawny, marked with russet and black. Crown with ocellar area marked with a pair of blackish spots, and a pair of vittae on the posterior third; compound eyes blackish; postclypeus with eight short, broad, blackish arcs and a round black median spot between the third pair of arcs from the dorsal margin; antennal pits and two pairs of spots on the lateral margin of the juga blackish. Pronotum with five pairs of fuscous vittae which tend to coalesce on the posterior and lateral margins. Mesonotum with two pairs of broad, short



FIGS. 63–65. *Coelidia punctata*. 63. Head and thorax. 64. Last abdominal segment of female. 65. Venation of tegmen.

vittae on the anterior margin. Mesonotum laterally clouded with blackish fuscous. Tegmina milky subhyaline, irregularly marked with blackish fuscous spots and points which tend to coalesce, and with the costal margin and the apical margin rather heavily marked, leaving a conspicuous whitish stigmatal spot. Legs bright ochraceous tawny, sparingly and irregularly marked with small blackish spots at the base of the spines on the hind tibia. Abdomen usually chiefly ochraceous tawny, with the basal segments more or less clouded with fuscous; pygofers chiefly fuscous.

Head slightly narrower than the pronotum; crown decidedly wedge shaped, nearly twice as long on the anterior margin as the posterior margin, anterior and posterior margins nearly parallel; ocelli three times as far from each other as from the compound eyes; crown with a faint median impressed line; postclypeus elongate, more than twice as long as the dorsal margin, ecarinate; lateral margins broadly curved; anteclypeus elongate, narrow on the basal three-fourths, and then lobately expanded apically, apical margin nearly straight, more than twice as long as the basal width. Pronotum more than three times as broad as the median length; posterior margin nearly straight; whole surface sparingly, finely rugulose. Mesonotum broader than long; surface nearly flat. Tegmina with the venation regular but indistinct. Last ventral segment of the female nearly twice as broad as long; lateral angles roundly produced, median area broadly, triangularly produced.

TYPE MATERIAL: Holotype, female, collected on South Bimini Island, Bahamas, British West Indies, July, 1951 (C. and P. Vaurie). Four female paratypes collected on South Bimini Island, July, 1951 (C. and P. Vaurie).

AGALLIIDAE  
AGALLIINAE  
GENUS *AGALLIA*  
*Agallia albidula* Uhler

Figure 66

*Agallia albidula* UHLER, 1895, Proc. Zool. Soc. London, p. 84.

*Agallia albidula* OMAN, 1933, Tech. Bull. U. S. Dept. Agr., vol. 372, p. 35.

*Agallia albidula* CALDWELL AND MARTORELL, 1952, Jour. Agr. Univ. Puerto Rico, vol. 34, p. 34, pl. 16.

This species has a wide distribution from Florida southward. It has been reported from many of the West Indian islands and in South America as far south as Brazil and Argentina.

The single female from the Bahamas has the general color and structure of this species with minor variations in details.

General color ochraceous buff, heavily marked with ochraceous tawny and a few spots of black; anteclypeus medially tawny, dorsal and lateral margins ochraceous buff; postclypeus with a large median ventral spot and a small dorsal spot buff; dorsal, ventral, and lateral margins chiefly tawny, the lateral margins with a narrow submarginal band buff; juga and internal margins of genae buff, outer margins of genae whitish; crown chiefly buff, with a median Y-shaped fascia tawny, lateral margins broadly tawny, connected to ocelli by a narrow tawny bar; a pair of

large oval black spots on the posterior border behind the ocelli. Pronotum chiefly buff, with a broad tawny median vitta on posterior two-thirds, two pairs of round tawny spots on anterior border, and a pair of large triangular tawny spots on the posterior border. Mesonotum with lateral angles fuscous. Tegmina with basal third coriaceous, heavily marked with buff and tawny vittae, apical border of this area and claval suture marked with black; apical two-thirds translucent, somewhat clouded with fuscous, and a distinct fuscous spot beyond apex of clavus.

Last ventral segment of female more than two and one-half times as long as penultimate; posterior margin nearly truncate.

TYPE LOCALITY: St. Vincent Island.

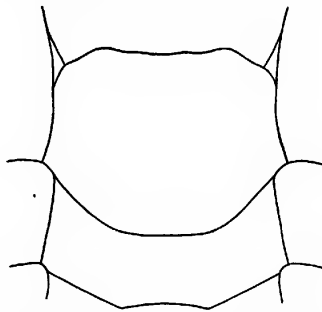


FIG. 66. *Agallia albidula*. Last abdominal segment of female.

NEW RECORDS FOR BAHAMA ISLANDS: One female, South Bimini Island, Bahamas, British West Indies, August, 1951 (C. and P. Vaurie).

MEMBRACIDAE

CENTROTINAE

LEPTOCENTRINI

GENUS *MONOBELUS*

*Monobelus fasciatus* (Fabricius)

Figures 67-69

[*Membracis*] *fasciata* FABRICIUS, 1798, Supplementum entomologiae systematicae, p. 515.

*M[onobelus] fasciatus* STÅL, 1869, Handl. Svenska Vet. Akad., vol. 8, pt. 1, p. 47.

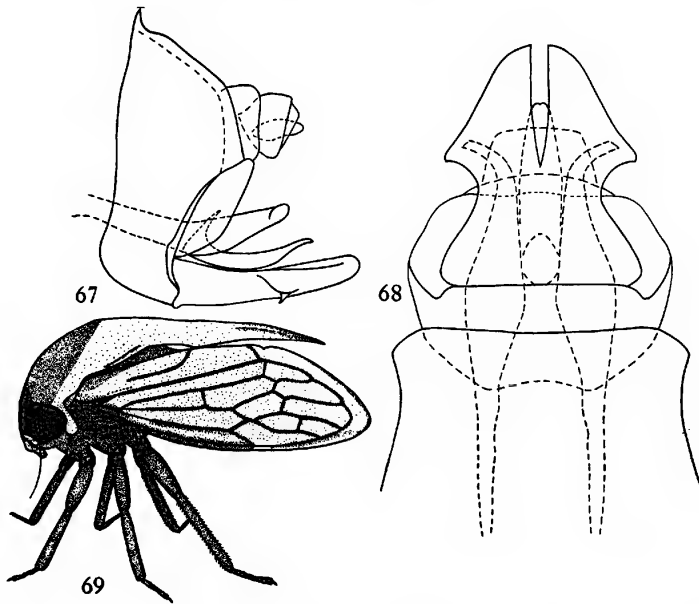
Typically this species has the head, except the anterior margin, and the metopidium black; posterior part of the pronotum yellowish; and a distinct whitish fascia across the base of the tegmina. The color of the specimens from the Bermudas is very variable. In some the metopidium is black, in others it is light brownish. The apical margin of the face may be either bright vivid green or reddish; the apical area of the pronotum may be either dull yellowish or bright vivid green; the transverse fascia

on the tegmina is reduced to a single rounded spot on the costal margin. Because all the specimens are females, it is impossible to distinguish them from typical specimens from Cuba, in some of which the apical part of the pronotum is also bright greenish.

Male genital plates longer than wide, lateral margins converging slightly, then suddenly broadened to obtuse lateral angles, then converging to the obtuse apex; when viewed laterally with a distinct triangular tooth just beyond the middle; genital styles elongate apically, strongly curved laterad; aedeagus simple, apical fourth attenuate.

Length to apex of tegmina, 4.8 mm. to 5.0 mm.

TYPE LOCALITY: West Indies.



FIGS. 67-69. *Monobelus fasciatus*. 67. Lateral view of male genitalia. 68. Ventral view of male genitalia. 69. Lateral view.

NEW RECORDS FOR BAHAMA ISLANDS: Three females, South Bimini Island, Bahamas, British West Indies, July, 1951 (C. and P. Vaurie); one female, South Bimini Island, June, 1951 (M. Cazier and F. Rindge).

#### GENUS *BRACHYCENTROTUS*

*Brachycentrotus gracilis*, new species

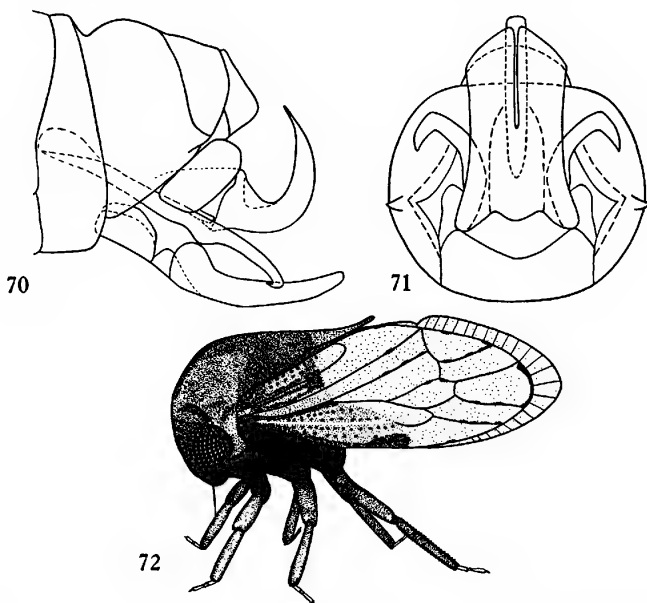
Figures 70-72

This species can be recognized by its small size, lighter coloration, with the apical two-thirds of the tegmina milky hyaline, the veins irregularly

punctate, the punctures very large; apical veins irregularly pustulate, the pustules coalescent; and distinct genitalia.

General color of head blackish; compound eyes tawny; general color of pronotum light ochraceous buff, irregularly clouded with tawny and small areas of blackish; the blackish areas are principally above the compound eyes and ocelli and along the dorsal carina; the tawny area is confined principally to the punctures themselves and to a broad transverse fascia behind the humeral angles. Basal area of the tegmina chiefly light ochraceous buff, with the punctures tawny; apical two-thirds milky subhyaline, with the pustules broadly blackish; beneath, including abdomen, chiefly blackish, with considerable golden yellow pile; legs chiefly tawny, with some clouding, especially on the femora, of blackish.

Head narrower than the humeral angles; crown longer and narrower than in *punctatus*, with the ocelli nearly three times as far from each other as from the compound eyes, not so near the posterior or dorsal margin as in *punctatus*. Pronotum more depressed than in *punctatus*; posterior process less depressed; dorsal margin nearly a straight line from the metopidium to the apex of the posterior process; posterior process distinctly shorter than apex of clavus. Tegmina elongate, narrow; basal third distinctly punctate; apical two-thirds milky subhyaline, with vena-



FIGS. 70-72. *Brachycentrotus gracilis*. 70. Lateral view of male genitalia. 71. Ventral view of male genitalia. 72. Lateral view.

tion distinct; irregularly pustulate, the pustules tending to fuse into distinct elongate areas.

Male genitalia with the genital plates, when viewed laterally, slender, obtuse at the apex; when viewed ventrally, broadly spatulate, the apical third somewhat expanded; genital styles elongate, slender; apex forming a recurved hook which is slender and acute; aedeagus broadly recurved; apical limb slender, nearly twice as long as the basal limb.

Length to apex of tegmina, 2.75 mm.

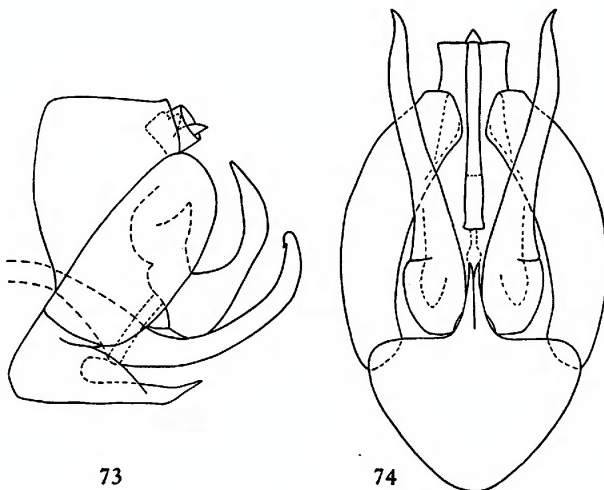
TYPE MATERIAL: Holotype, male, collected on South Bimini Island, Bahamas, British West Indies, June 8, 1950 (M. Cazier and F. Rindge). One male paratype collected on South Bimini Island, June 8, 1950 (M. Cazier and F. Rindge).

SMILIINAE  
POLYGLYPTINI  
GENUS *IDIODERMA*  
*Idioderma virescens* Van Duzee

Figures 73, 74

*Idioderma virescens* VAN DUZEE, 1909, Bull. Buffalo Soc. Nat. Sci., vol. 9, p. 208.

This species was described from Florida and has previously been recorded from Cuba. The present collection extends its range to the Bahamas.



FIGS. 73-74. *Idioderma virescens*. 73. Lateral view of male genitalia. 74. Ventral view of male genitalia.



General color bright greenish, fading to ochraceous, with the compound eyes, sometimes the legs, testaceous; tips of tarsi, ovipositor, male genital plates, and aedeagus usually blackish.

Last ventral segment of male genitalia broadly triangular; genital plates elongate, acute, meeting on the median line; genital styles elongate, rather broad on the basal half, then somewhat narrowed on the apical half; inner apical angle produced into a definite tooth; aedeagus broad basad, somewhat recurved and narrowed apically; apex obtuse; pygofer elongate, somewhat quadrate; tenth segment short; apical spine triangular, rather acute.

TYPE LOCALITY: Florida.

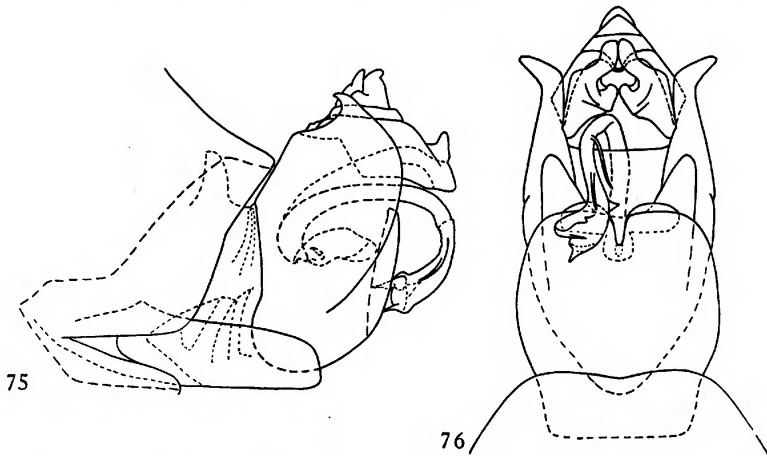
NEW RECORDS FOR BAHAMA ISLANDS: Five males and one female, South Bimini Island, Bahamas, British West Indies, June 20, 1950 (M. Cazier and F. Rindge).

CICADIDAE  
TIBICENINAE  
TIBICENINI  
GENUS *DICEROPROCTA*  
*Diceroprocta bonhotei* (Distant)

Figures 75, 76

*Cicada bonhotei* DISTANT, 1901, Ent. Monthly Mag., vol. 37, p. 71.

This species belongs to the group of species in the genus *Diceroprocta* which have the operculum broadly triangular, with the lateral apical



FIGS. 75-76. *Diceroprocta bonhotei*. 75. Lateral view of male genitalia. 76. Ventral view of male genitalia.

angle obtuse. The tegmina are clear and transparent, with the second and third cross veins clouded. Total length, including tegmina, less than 50 mm. Both the color and size are quite variable, and the amount of pruinosity varies very greatly.

In general the color of the dorsal surface of the body, including the abdomen, is brownish, tending to become blackish fuscous, especially the median pair of obconical spots on the mesonotum. In some specimens, however, the entire mesonotum is brownish or greenish brown, without evident markings, and in others it is almost completely blackish, with very little evidence of markings. Color of pronotum usually brownish, more or less tinged with greenish. Dorsal basal abdominal segment usually heavily pruinose. In other specimens, however, this pruinosity is entirely wanting. Ventrally the whole surface is heavily pruinose including the face and legs.

Male genitalia with the genital valve broad and short, approximately twice as broad as long; posterior margin broadly rounded from the base, with the median apical margin incised; whole surface covered with short, relatively stout spines; genital plate elongate, nearly twice as long as broad; apical margin broadly rounded, whole surface covered with minute short spines like those on the valve; pygofer relatively short, posterior dorsal angle continued as a definite triangular tooth; dorsal margin broadly excavated; genital styles complex, with broad heavy basal area and short rounded median lobes contiguous on the median line; apex produced, with the apical lobe broadly rounded and contiguous on the median line; phallobase broad, rounded, with a median lobe and a pair of elongate oval lateral lobes; aedeagus elongate, C-shaped, tubular; vesica membranous, with heavily chitinized spines. Female genitalia with pygofer rather robust; ventral margins widely separated at base, gradually approaching each other on the basal third; median third, approximate with apical third, separated; last ventral segment broad and short, nearly four times as broad as long; apical margin broadly sinuate laterad, with a definite V-shaped median notch; dorsal spine rather broad at the base, acute, not definitely curved upward as described by Davis (1928, p. 445).

TYPE LOCALITY: Bahama Islands.

NEW RECORDS FOR BAHAMA ISLANDS: Nine males and 11 females, July and September, 1947, June, July, and August, 1951 (C. and P. Vaurie, M. Cazier, F. Rindge, and J. A. Oliver).

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